

receiving a wager for the casino game,
playing an underlying game of chance in the casino game,
playing a knowledge-based bonus game in the casino game using answers from a player, the play of the knowledge-based game separate from the play of the underlying game of chance, the combined play of both the knowledge-based bonus game with the underlying game of chance having a house advantage for the casino game within a predetermined range, the predetermined range having set limits based on the correctness of the answers and the wager.

2. The method of claim 1 wherein the underlying game of chance is a slot game.

3. The method of claim 1 wherein the step of playing the knowledge-based game occurs when play of the underlying game of chance stops.

4. The method of claim 3 further comprising the step of restarting the play of the underlying game of chance when the play of the knowledge-based bonus game is over.

5. (amended) The method of claim 3 wherein stopping the underlying game of chance is based upon a condition occurring in the play of the underlying game of chance, the condition being one of the following: the appearance of a bonus symbol in the step of playing of the underlying game of chance or a random number wagers received in the step of receiving.

6. (amended) The method of claim 3 wherein stopping the underlying game of chance is based upon a condition occurring unrelated to the play of the underlying game of chance, the condition being one of the following: the timing out of a random timer in the play of the underlying game of chance or an appearance of a number in a random roll of dice after the play of the underlying game of chance.

7. (amended) The method of claim 3 wherein stopping of the underlying game of chance occurs at a known frequency.

8. (amended) The method of claim 3 wherein stopping of the underlying game of chance is randomly chosen at a known frequency.

9. (twice amended) The method of claim 1 wherein one of the set limits is based upon all answers in the knowledge-based bonus game are always correct.

10. (twice amended) The method of claim 1 wherein one of the set limits is based upon all answers in the knowledge-based bonus game are always guessed at.

11. (amended) The method of claim 1 wherein the predetermined range is positive.

12. The method of claim 1 wherein the step of playing the knowledge-based game further comprises the steps of:

- (a) providing at least one query to the player in the knowledge-based game,
- (b) receiving at least one answer from the player in response to the provided query,
- (c) paying the player based upon the at least one answer.

13. The method of claim 12 wherein the at least one query is a multiple choice question having only one of the multiple choices correct.

14. (amended) The method of claim 12 wherein the at least one query is a query requiring a proximate answer.

15. The method of claim 12 wherein the at least one query is a multiple choice question having at least one of the multiple choices correct.

16. The method of claim 12 wherein the at least one query is a puzzle having a forced outcome.

17. The method claim of claim 12 wherein the at least one query is a true/false question.

18. The method of claim 12 wherein the step of paying the player further comprises the steps of:

paying the player a first amount when the player correctly answers the at least one query,

paying the player a second amount when the player incorrectly answers the at least one query.

19. A method for playing a combined knowledge-based bonus game with an underlying casino game of chance, the method comprising the steps of:

receiving a wager,

playing the underlying casino game of chance,

stopping play of the underlying casino game of chance,

playing the knowledge-based bonus game when the underlying casino game of chance is stopped, the steps of playing the knowledge-based game at least having the steps of:

(a) providing at least one query to the player in the knowledge-based game,

(b) receiving at least one answer from the player in response to the provided at least one query,

(c) paying the player based upon the at least one answer by the player

providing a house advantage within a predetermined range for the combined knowledge-based bonus game and underlying casino game, the predetermined range having a set limit based at least upon all answers to all queries in the knowledge-based game are always correct and the wager.

20. The method of claim 19 wherein the at least one query is a multiple choice

question having only one of the multiple choices is correct.

21. (amended) The method of claim 19 wherein the at least one query is a query requiring a proximate answer.

22. The method of claim 19 wherein the at least one query is a multiple choice question having a plurality of the multiple choices correct.

23. The method of claim 19 wherein the at least one query is a puzzle having a forced outcome.

24. The method of claim 19 wherein the step of paying the player further comprises the steps of:

paying the player a first amount when the player correctly answers the at least one query,

paying the player a second amount when the player incorrectly answers the at least one query.

25. (amended) A method for playing a combined knowledge-based bonus game with an underlying casino game of chance, the method comprising the steps of:

playing the underlying casino game of chance,

playing the knowledge-based bonus game, the play of the knowledge-based game separate from the underlying game, the steps of playing the knowledge-based game at least having the steps of:

(a) providing at least one query to a player in the knowledge-based game,

(b) receiving at least one answer from the player in response to the provided at least one query,

the separate play of the knowledge-based bonus game with the underlying casino game having a house advantage in a range from a first set limit based on all answers to all queries are correct to a second set limit based on all answers to all queries are guessed.

26. The method of claim 25 wherein the underlying casino game of chance is a slot game.

27. The method of claim 25 wherein the step of playing the knowledge-based bonus game is based upon a condition occurring in the play of the underlying casino game.

28. The method of claim 25 wherein the step of playing the knowledge-based bonus game is based upon a condition occurring unrelated to the play of the underlying casino game of chance game.

29. (amended) The method of claim 25 wherein the step of playing occurs at a known frequency.

30. (amended) The method of claim 25 wherein the step of playing is randomly chosen at a known frequency.

42. (twice amended) A method for a casino game comprising the steps of:
providing a first game of chance,
providing a second knowledge-based game,
playing the first game of chance having a negative player's expected return relative to a player's wager,
stopping play of the first game,
playing the second knowledge-based game using answers from a player when the first game is stopped, the second knowledge-based game always having a positive player's expected return.

43. The method of claim 42 further comprising the step of returning to the play of the first game when the play of the second knowledge-based game is over.

44. The method of claim 42 wherein the first game is a slot game.
45. The method of claim 42 wherein the step of stopping the first game is based upon a condition occurring in the play of the first game.
46. The method of claim 42 wherein the step of stopping the first game is based upon a condition occurring unrelated to the play of the first casino game.
47. (amended) The method of claim 42 wherein the step of stopping is randomly chosen at a known frequency.
48. The method of claim 42 wherein the positive player's expectation is at most a first set limit based upon all answers to all queries in the second knowledge-based game always being correct.
49. The method of claim 42 wherein the positive player's expectation is at least a second set limit based upon all answers to all queries in the second knowledge-based game always being guessed at.
50. The method of claim 42 wherein the step of playing the second knowledge-based game further comprises the steps of:
- (a) providing at least one query in the second knowledge-based game,
 - (b) receiving at least one answer in response to the provided query,
 - (c) paying based upon the at least one answer.
51. The method of claim 50 wherein the at least one query is a multiple choice question having only one of the multiple choices is correct.
52. (amended) The method of claim 50 wherein the at least one query is a query requiring a proximate answer.

53. The method of claim 50 wherein the at least one query is a multiple choice question having at least one of the multiple choices correct.

54. The method of claim 50 wherein the at least one query is a puzzle having a forced outcome.

55. The method of claim 50 wherein the step of paying the wager further comprises the steps of:

paying a first amount when the correct answer is provided for the at least one query,

paying a second amount when the incorrect answer is provided for the at least one query.

56. The method of claim 42 wherein the step of playing the second knowledge-based game is played with a positive minimum player's expected return for a player who always guesses and a positive maximum player's expected return for a player who is always correct.

57. The method of claim 42 wherein the step of playing provides only one query.

58. The method of claim 42 wherein the step of playing provides at least one query.

Add the following new claims:

88. (new) A method for playing a casino game comprising:
receiving a wager from a player in the casino game to play both an underlying game of chance and a knowledge-based bonus game implemented with the underlying game of chance, said wager having a value in units,
playing the underlying game of chance, the player having an expected return in

units in the play of the underlying game of chance,

stopping play of the underlying game of chance at a known statistical frequency rate to initiate the knowledge-based game thereby continuing play of the casino game,

playing the knowledge-based bonus game using answers from the player when the underlying game of chance stops, the player having an expected rate of return in units in the knowledge-based game based on the correctness of the player's answers, the casino game having an instantaneous house advantage within a predetermined range, wherein the instantaneous house advantage for the casino game is a function of the player's expected rate of return in units in the underlying game of chance, the player's expected rate of return in units for the knowledge-based bonus game, the known statistical frequency rate for stopping the underlying game of chance, and the units of the wager; the predetermined range having set limits for all play of the casino game in order to provide an average house advantage for the casino game in the predetermined range.

89. (new) The method of claim 88 wherein the underlying game of chance is a slot game.

90. (new) The method of claim 88 further comprising restarting the play of the underlying game of chance when the play of the knowledge-based bonus game is over.

91. (new) The method of claim 88 wherein stopping the underlying game of chance is based upon a condition occurring in the play of the underlying game of chance.

92. (new) The method of claim 88 wherein stopping the underlying game of chance is based upon a condition occurring unrelated to the play of the underlying game of chance.

93. (new) The method of claim 88 wherein stopping of the underlying game of chance is randomly chosen at the known frequency rate.

94. (new) The method of claim 88 wherein the knowledge-based bonus game has queries with answers and wherein the player's expected rate of return for the knowledge-based bonus game is one of the set limits in the predetermined range based upon all answers in the knowledge-based bonus game are always correct.

95. (new) The method of claim 88 wherein the knowledge-based bonus game has queries with answers and wherein the player's expected rate of return for the knowledge-based bonus game one of the set limits in the predetermined range based upon all answers in the knowledge-based bonus game are always guessed at.

96. (new) The method of claim 88 wherein the predetermined range is always positive.

97. (new) The method of claim 88 wherein playing the knowledge-based game further comprises:

- (a) providing at least one query to the player in the knowledge-based game,
- (b) receiving at least one answer from the player in response to the provided query,
- (c) paying the player based upon the at least one answer.

98. (new) The method of claim 97 wherein the at least one query is a multiple choice question having only one of the multiple choices correct.

99. (new) The method of claim 97 wherein the at least one query is an query requiring a proximate answer.

100. (new) The method of claim 97 wherein the at least one query is a multiple choice question having at least one of the multiple choices correct.

101. (new) The method of claim 97 wherein the at least one query is a puzzle

having a forced outcome.

102. (new) The method claim of claim 97 wherein the at least one query is a true/false question.

103. (new) A method for a player playing a casino game comprising :

- receiving a wager from the player in the casino game to play both an underlying game of chance and a knowledge-based bonus game , said wager having a value in units,
- playing the underlying game of chance,
- paying the player at an expected rate of return in units when the player wins in the underlying game of chance,
- ending the casino game when the player is paid in the underlying game of chance,
- playing the knowledge-based bonus game using answers from the player only when the underlying game of chance stops so as to continue play of the casino game, the step of playing the knowledge-based game further comprising the steps of:
 - providing at least one query to the player in the knowledge-based bonus game,
 - receiving at least one answer from the player in response to the provided query,
 - paying the player a higher positive amount in units when the at least one answer is correct,
 - paying the player a lower positive amount in units when the at least one answer is incorrect,
 - ending the casino game when the player is paid in the knowledge-based game of chance.

104. (new) The method of claim 103 wherein the higher and lower positive amounts are greater than the wager.

105. (new) The method of claim 103 further comprising :
 providing another query to the player when the player is paid the higher amount;
 receiving at least one answer from the player in response to the provided another query,
 paying the player a higher second positive amount in units when the player correctly answers the provided another query,
 paying the player a lower second positive amount in units when the player incorrectly answers the provided another query.

106. (new) The method of claim 105 wherein providing another query provides a query of increased difficulty to the at least one query.

107. (new) The method of claim 103 further comprising :
 receiving a double or nothing input from the player during play of the casino game;
 paying the player double the higher positive amount in units when the player correctly answers the at least one query in response to the received input,
 not paying the player the lower positive amount when the player incorrectly answers the at least one query.

108. (new) The method of claim 103 wherein paying the player a higher positive amount pays different higher positive amounts based on a function of how close the player answer is to the correct answer.

109. (new) The method of claim 103 wherein each at least one query has a plurality of correct and incorrect answers.

110. (new) The method of claim 103 further comprising :
 receiving another answer to the at least one query when the received at least one answer is incorrect,

paying the lower positive amount when the received another answer is incorrect,
paying an amount between the higher and lower positive amounts when the
received another answer is correct.

111. (new) A method for a player playing a casino game, the method
comprising :

receiving a wager from the player in the casino game to play both an underlying
game of chance and a knowledge-based bonus game implemented with the underlying
game of chance,

playing the underlying game of chance, the player having an expected rate of
return based on the wager for play of the underlying game of chance,

stopping play of the underlying game of chance at a known statistical frequency
rate in order to initiate the knowledge-based bonus game,

playing the knowledge-based bonus game when the underlying game of chance
stops at a known frequency rate so as to continue the play of the casino game, the step
of playing the knowledge-based bonus game at least having the steps of:

(a) providing at least one query to the player in the knowledge-based bonus
game,

(b) receiving at least one answer from the player in response to the provided at
least one query,

(c) paying the player based upon the correctness of the at least one answer by
the player, the player having an expected rate of return for play of the knowledge-based
bonus game, the aforesaid rate of return a function of the correctness of the at least
one answer,

the casino game having an instantaneous house advantage based on the
player's expected rate of return for the underlying game of chance, the player's
expected rate of return for the knowledge-based bonus game, the known statistical
frequency rate for stopping the underlying game of chance, and the wager; the
instantaneous house advantage having a set limit based on all at least one answers for
play in the knowledge-based game being always correct, the set limit being the same
for all play of the casino game.

112. (new) A method for playing a casino game, the method comprising :

- receiving a wager from the player in the casino game to play both an underlying game of chance and a knowledge-based bonus game implemented with the underlying game of chance,
- playing the underlying game of chance, the player having an expected rate of return based on the wager for play of the underlying game of chance,
- playing the knowledge-based bonus game when the underlying game of chance stops at a known statistical frequency rate so as to continue the casino game, the steps of playing the knowledge-based game at least having the steps of:
 - providing at least one query to a player in the knowledge-based bonus game,
 - receiving at least one answer from the player in response to the provided at least one query,
 - paying the player based upon the correctness of the at least one answer by the player, the player having an expected rate of return for the play of the knowledge-based bonus game, the aforesaid rate of return a function of the correctness of the at least one answer,
- the casino game having an instantaneous house advantage based on the player's expected rate of return for the underlying game of chance, the player's expected rate of return for the knowledge-based bonus game, the known statistical frequency rate for stopping the underlying game of chance, and the wager; the instantaneous house advantage having a set limit based on all at least one answers for all play of the knowledge-based game being always guessed at, the set limit being the same for all said play of the casino game.

113. (new) A method for a player playing a casino game comprising :

- receiving a wager from the player to play the casino game,
- playing a slot game having an expected rate of return to the player in response to receiving the wager,
- stopping play of the slot game,

playing the knowledge-based game using answers from the player only when the slot game is stopped so as to continue play of the casino game, the knowledge-based game having an expected rate of return based on the wager wherein the aforesaid rate of return is at most a first limit based upon all answers in the knowledge-based game being correct and wherein the aforesaid rate of return is at least a second limit based upon all answers in the knowledge-based game always being guessed at, the first and second limits each being set and each being greater than or equal to zero for all play of the casino game.

114. (new) A method for a player playing a casino game comprising :
receiving a wager from the player in the casino game to play both an underlying game of chance and a separate knowledge-based bonus game implemented with the underlying game of chance,
playing the underlying game of chance,
paying the player when the player wins during play of the underlying game of chance,
playing the knowledge-based bonus game using at least one answer from the player only when the underlying game of chance stops to initiate the separate knowledge-based bonus game thereby continuing the play of the casino game,
paying the player as a function of the correctness at least one answer during the play of the knowledge-based bonus game,
the casino game having an instantaneous house advantage that is set over all play of the casino game as a function of said correctness of the at least one answer, said instantaneous house advantage being equal to or greater than zero.

115. (new) The method of claim 114 wherein the wager has a value, X , in units, and wherein the player has an expected return, R , in units in the step of paying during play of the underlying game and an expected return, B , in units in the step of paying during play of the knowledge-based bonus game, and wherein the underlying game stops at a known frequency rate, f , and wherein the instantaneous house advantage equals $-(R+fB-X)/X$.

116. (new) The method of claim 114 wherein the instantaneous house advantage is set at a limit, for all play of the casino game, when the answers are always correct.

117. (new) The method of claim 114 wherein the instantaneous house advantage is set at a limit, for all play of the casino game, when the answers are always guessed at.

118. (new) The method of claim 114 wherein the known frequency rate is periodic.

119. (new) The method of claim 114 wherein the known frequency rate is random with a statistical frequency over time.

120. (new) A method for a player playing a casino game comprising:
receiving a wager from the player to play the casino game,
playing a slot game in the casino game having an expected rate of return to the player in response to receiving the wager,
ending the casino game when the player receives a payout based on the expected rate of return for the slot game,
stopping play of the slot game at a known statistical frequency rate,
playing the knowledge-based game using answers from the player only when the slot game is stopped so as to continue play of the casino game, the knowledge-based game having an expected rate of return to the player based at least on the correctness of the answers,
varying the knowledge-based game expected rate of return, the varying knowledge-based game expected rate of return obtaining first and second limits over all play of the casino game, the first limit based upon all answers in the knowledge-based game being correct and the second limit based upon all answers in the knowledge-based game always being guessed at.

121. (new) The method of claim 120 wherein varying the knowledge-based game expected rate of return periodically changes over time.

122. (new) The method of claim 120 wherein varying the knowledge-based game expected rate of return randomly varies over time.

123. (new) A casino game comprising:
a wager in units for playing the casino game,
a game of chance in the casino game, said game of chance started in response to the wager, the game of chance comprising:

- a random number generator having a random output,

- a negative player expected return in units for all play of the game of chance based on the wager and the random output,

- a knowledge-based bonus game in the casino game, said knowledge-based bonus game randomly activated by the random output at a known statistical frequency for play, said knowledge-based game comprising:

- a memory having a plurality of queries and a plurality of correct and incorrect answers for each of the plurality of queries,

- an input for receiving player answers to the plurality of queries,

- a positive player expected return in units for all play of the knowledge-based bonus game based on the wager and based on the correctness of the received players answers to the plurality of correct and incorrect answers, the positive player expected return having a first limit when all received player answers are correct and a second limit when all received player answers are guessed at,

- a house advantage, in units, varying in a range for all play of the casino game for the casino game, the house advantage based on the wager, the negative player expected return, the known statistical frequency, and the positive player expected return, the house advantage being equal to or greater than zero, the range determined by the first and

second set limits.

124. (new) A method for a player playing a casino game comprising :
receiving a wager from the player in the casino game to play both an underlying
game of chance and a knowledge-based bonus game,
playing the underlying game of chance in the casino game,
playing the knowledge-based bonus game in the casino game using answers
from the player only when the underlying game of chance stops so as to continue play
of the casino game,
maintaining an instantaneous house advantage for the casino game that varies
dependent upon the correctness of the player's answers, the instantaneous house
advantage always equal to or greater than zero and within a set range regardless of the
correctness of the player's answers.

125. (new) The method of claim 124 wherein the set range is about 10%.

126. (new) The method of claim 125 wherein the limits of said set range are
about 5% to 15%.

127. (new) The method of claim 124 wherein the player is always assured of a
net win for each play of said knowledge-based bonus game.

128. (new) A method for creating a casino game requiring a wager comprising :
utilizing random means on a game of chance in the casino game with a chosen
expected return less than the wager;
incorporating a knowledge-based bonus game in the casino game with chosen
frequency;
choosing a maximum value for the knowledge-based bonus game wherein all
answers are assumed to be correct;
choosing a minimum value for the knowledge-based bonus game wherein all
answers are assumed to be guessed at;